

very sharp set of teeth, a very curious sparkling eye, a long extended mouth, a monstrous high Fin on its back, being of a slimy substance, only the Ribs which stretched it out (being thirty-two in number) were firm and stiff. He had one small fin under his jaw, of the same slimy substance. That part of him which is without small spots, is a perfect green *Jelly*, whence he is called by us a *Jelly-fish*. The rest of him was firm, of a Silver colour, with small spots, and streaks or partings, as is exprest in the Figure."

The figure itself, rude as it is, as might be expected from a mariner of that time, leaves no doubt as to the nature of the fish. Whether it was drawn from the specimen at the time of its capture, or at a later period from recollection, is matter of conjecture. It is evident that Funnell, when the Dutch authorities at Amboyna took possession of all the private effects of the ship's company, found means to preserve the notes which he had made during the voyage, and without which he would not have been able to write the account published after his return to England. They probably included a sketch of the fish, but it seems to me that the description was drawn up at a later period, from the sketch and from memory. Both figure and description are much too inaccurate to draw from them any conclusion as to the species to which Funnell's specimen belonged. This, however, is immaterial; Goode and Bean (*Ocean. Ichth.* p. 117) express themselves as not thoroughly satisfied that more than one species has been found in the Atlantic.

V.—*Notes on Bats of the Genus Nyctinomus found in Africa, &c.* By W. E. DE WINTON.

THE working out of the species of *Nyctinomus* in connexion with Dr. Anderson's 'Fauna of Egypt' has necessitated looking through the whole of the specimens of this genus contained in the collection of the British Museum. In several instances the determination arrived at by Dobson in his 'Catalogue of the Chiroptera' has been found to require amendment, and the examination of the skulls has brought out additional facts of importance. This communication is confined only to those species, found principally on the continent of Africa and the island of Madagascar, which have the ears joined or rising close together from the centre line of the face, and does not deal with that section of the genus with

smaller and more widely-separated ears which form the sub-genus *Mormopterus*.

SECTION I.—With incomplete premaxillæ.

Nyctinomus africanus, Dobs.

Colour reddish brown, lighter and brighter beneath. Ears and wing-membranes and muzzle brown. Ears distinctly separated on the forehead. Tragus large.

Type in B.M.

Forearm 66 millim.

Skull very large and exceptionally broad, slightly arched on the forehead. The preorbital processes very much expanded. Premaxillæ separated, the opening perfectly circular. Incisors nearly parallel, or their points very slightly divergent. First upper premolar very small, blunt, the cusp barely longer than the cingulum. Lower incisors 4, of equal size. Lower canines almost touching at their bases.

Transvaal.

A rather smaller, white-bellied and light-winged form from Betsileo, Madagascar.

Nyctinomus teniotis, Raf.

Colour mouse-grey, very slightly, if at all, paler beneath. Ears and wing-membranes and muzzle black. Ears only united at extreme bases of their inner margins. Tragus large.

Forearm 59–62 millim.

Skull light and rather narrow, but very flat; forehead depressed. Premaxillæ widely separated. Incisors convergent. First upper premolar of fair size, say larger than one of the cusps of the molars. Lower incisors 6; the second pair largest; outer pair smallest and barely notched. Lower canines widely separated at their bases.

Portugal, Italy, Greece, Persia.

Nyctinomus ægyptiacus, Geoff.?

The examples in the Museum seem to agree so thoroughly with Geoffroy's description of this species, that, until typical specimens from Egypt are forthcoming to prove the contrary, I shall use this name for this S. African form.

Colour in spirit-specimens as nearly as possible uniform all over: some black, some brown. Closely resembling *N. teniotis* in all respects, but the ears are smaller and less broad; the lips, too, not so pendent. Tragus large.

Forearm 47–50 millim.

The skull resembles that of *N. teniotis* in shape, but is very much smaller and more papery. The premaxillæ are very imperfect, the vacant space being actually larger than in the skull of *N. teniotis*. The first upper premolar is small, not in any way crowded and right in the centre of the tooth-row. Lower incisors 4.

Basutoland, Grahamstown.

Nyctinomus lobatus, Thos.

Colour above sooty brown, also chin and sides of body from shoulders nearly to groin. The chest, belly, and genital region white. The lower side of the wings between the humerus and femur covered with soft white fur. Ears transparent and pale; wing-membrane still paler. Ears united at bases of inner margin and almost reaching to end of snout.

Type in B.M.

Forearm 63 millim.

Skull very like that of *N. teniotis*. Preorbital processes rather more prominent and also quite evident postorbital projections. The space between the premaxillæ is rather deeper than in *N. teniotis*, the premolar smaller. In the lower jaw there are but 4 incisors and the canines are rather close together.

Suk Country.

Nyctinomus brachypterus, Pet.?

A specimen in the Museum appearing to agree with Peters's description.

Colour above dark sooty brown; beneath, except chin and sides, whitish. Ears, wing-membranes, &c. black. Wings and interfemoral membrane from ankles. The ears are moderate, joined on the forehead by a low band, which is erect, haired in front, and at all times continuous with the ears and forehead; lobe of inner cartilage of ear-border very prominent. Tragus small.

Forearm 37 millim.

Skull somewhat raised on forehead and accentuated by a low median crest rising at constriction. Premaxillæ separate, but incisors rather close together and parallel. First premolar small, rather crowded, but in direct tooth-row. Lower incisors 4, bowed well in front of canines, which are a moderate distance apart.

Sierra Leone.

A specimen (227 a) from Fernando Po with brown undersides was referred by Dobson to *N. pumilus*.

SECTION II.—With completely ossified premaxillæ.

Nyctinomus limbatus, Pet.

Ears connected by a deep band. Tragus small.

Colour above dark reddish brown; the underside, except chin, throat, and sides of the body, white. Long crest of erect hairs behind the connecting membrane of ears in the males. Wing-membranes canary-yellow, covered with white fur from the middle of the humerus to the heel. Inter-femoral membrane palish brown. Wings from ankles. A ♂, 82.2.6.15, Zanzibar, is very dark-coloured above and below, with no white on the belly, but with whitish fur on the wing-membranes; the wings themselves are not quite so brightly coloured as usual.

Forearm 36–38 millim.

♀, 93.12.2.8., Tana R. Slightly larger, wing 38 millim.; wholly brown, with the exception of fur on the wing-membranes, which are very brightly coloured, and a narrow white streak on lower belly including genitals.

Skull very flat, with low crest from constriction; upper incisors close together; premaxillæ completely ossified; first upper premolar a little pinched on to the outer side of the tooth-row. Lower incisors with high inner cusp.

East Africa. Madagascar.

Nyctinomus gambianus, sp. n.

Much resembling *N. limbatus* in size and general appearance, but differing in having the lower parts uniform brown. The skull also closely resembles that of the East African species; but in this new bat the first upper premolar is only vestigial, so small, indeed, that it is not possible to see it without the aid of a strong lens. This minute tooth is placed close against the canine, in the outer angle formed by the actual meeting of the canine and second premolar. The first lower premolar is also smaller in this species.

Forearm 37–38 millim. (type).

The males are not furnished with the crest of long hair on the back of the membrane connecting the ears, which is such a characteristic feature in *N. limbatus* from E. Africa.

Gambia, Lagos, Nigeria.

Type, ♂, B.M. No. 89.10.7.3. Gambia. Collected by Dr. Percy Rendall.

A specimen referable to this species formed the basis of Dobson's description of *N. pumilus*.

Nyctinomus pumilus, Cretschm.

Above brown mouse-colour, beneath rather paler. Wings brown and paler. Wings and interfemoral membrane from ankles. Ears united by a broad band forming a distinct frontal cushion with a median furrow, much like that of *N. angolensis*. Tragus rising from rounded eminence, quadrate, rather small.

Forearm 38 millim.

Premaxillæ complete, joined. Upper incisors parallel, not very close together. Premolar small, rather crowded on to the outer side of the tooth-row. Lower incisors 4, the two inner ones bilobed, the outer pair simple and small.

Dried skin, 77 a, South Africa (Dobs. Cat.), is possibly a true *N. pumilus*, and this is the only specimen mentioned in the Catalogue which belongs to this species.

Massowa.

Nyctinomus major, Trouess.

Ears united by a deep band, which in the dry skin forms a distinct lobe, probably as in *N. pumilus*.

Brown above and beneath, with the exception of the pale whitish fur on the wing-membranes and the centre of the breast and belly, which is also whitish. The wing-membranes are pale.

Forearm 43 millim.

The skull is that of a very aged individual, the teeth being worn very low; the upper incisors are rather close together; the canines cut away on the inner side and not evenly bowed; the first upper premolar is small, almost in the centre line of the tooth-row, not in any way crowded. Premaxillæ entirely ossified.

The closest ally of this species is the new form from Mosambiro next described.

Type in B.M.

First Cataract of the Nile.

It is impossible to give a fuller account of this specimen, a dried skin, which still remains unique.

Nyctinomus Emini, sp. n.

Ears united by a broad band, probably as in *N. pumilus*.

Size rather larger than *N. pumilus* and *N. limbatus*. General colour dark sooty brown, the centre line of the belly grey or pure white; a tuft of snow-white hair is also found at the base of the humerus, and these white hairs continue

down the side to the groin. The ears, face, and entire wing-membranes are black.

Forearm 43 millim.

Type B.M. No. 90.6.8.15, ♂. Mosambiro. Collected by Dr. Emin.

It is impossible to give a detailed satisfactory description of bats from dried skins.

Skull broader than that of *N. limbatus*, but not so broad as that of *N. major*, and distinguished from both by its prominent preorbital processes. The premaxillæ are joined, but are less perfectly ossified than in the allied species. The upper incisors are close together and parallel; the upper premolar is not in any way crowded, directly in the tooth-row. Lower incisors not markedly bifurcate.

Nyctinomus angolensis, Pet.

Colour above russet-brown, frosted with pale buff; underside paler, shading to pale buff on the middle line of belly. Ears united by a broad straight band, which folds backwards, forming a distinct naked cushion on the forehead, with thick dark hair behind. Tragus very small. Wing-membranes palish; more or less yellow on the antebrachial membrane, the elbow, and towards the body. Wing-membranes from middle of tibia; interfemoral membrane hugging leg to opposite the same place.

Forearm 48-52 millim.

Premaxillæ completely joined, very small palatal foramina. Skull with very high crest rising from frontal constriction. Teeth rather powerful. Upper incisors very close together. Upper premolar minute, only just showing through gum on the outer side of row. Lower incisors 4, small, barely protruding in front of canines, which are close together though not touching.

Quanza R., Lagos, Benin, Bagamoio, and Tamatave.

Nyctinomus midas, Sund.

Colour reddish brown. Underside probably lighter, belly whitish grey? Wing-membranes &c. brown. Ears? probably with bases of inner margins in close proximity. Tragus?

Forearm? ♂ juv.

Co-type in B.M. in bad condition, with imperfect bones in the forearms.

Skull exceedingly powerful but very narrow. Preorbital processes not expanded. Very high keel-like sagittal crest

raised above the forehead from between the eyes. Teeth extraordinarily heavy, really enormous! Premaxillæ entire; mesial suture not complete in this young specimen, but completely ossified, enclosing two palatal foramina. First upper premolar very small, triangular, with sharp cusp inclined inwards, rather crushed between canines and second premolar. Upper incisors parallel. Lower incisors 4. Lower canines close together at their bases.

Senaar.

It seems unaccountable how Dobson could have referred this actual specimen to the Southern European form, but such is the fact.

The following species I have not seen:—

Dysopes ventralis, Heuglin = *Nyctinomus Cestonii*, Dobs. (partim).

(This is probably *N. midas*, Sundev.)

Dysopes bivittatus, Heugl. = *N. bivittatus*, Dobs. Cat. B. M. p. 426.

(From Heuglin's description this form would appear to be very nearly allied to *N. angolensis*, as are also *D. hepaticus*, Heugl., and *D. talpinus*, Heugl.)

Nyctinomus Bemmeleni, Jentink, Notes Leyd. Mus. i. 1879, p. 121.

Nyctinomus Anchietae and *brunneus*, Seabra, Jorn. Sci. Math. 2 ser. t. vi. no. xxii.

(May possibly be the same as the S. African bat referred above to *N. ægyptiacus*.)

Nyctinomus Bocagei, Seabra, loc. cit.

VI.—On an undescribed Species of Hedgehog from Southern Arabia. By Dr. JOHN ANDERSON, F.R.S., and W. E. DE WINTON.

Erinaceus dorsalis, sp. n.

Hair soft and silky. Spines with from twenty-five to twenty-eight longitudinal ridges with well-marked nodosities.